

### **REMARKS**

This Application has been carefully reviewed in light of the Final Office Action mailed April 13, 2010 ("Office Action"). Claims 34-39 and 41-56 are pending in the Application and stand rejected. Claims 34, 43, and 49 have been amended without adding new subject matter.<sup>1</sup> Claims 1-33 and 40 were previously canceled without prejudice or disclaimer. Applicant respectfully requests reconsideration and favorable action in this case.

### **Interview Summary**

Applicant thanks the examiner for his time and courtesies in conducting the interview after final on July 15, 2010. Applicant respectfully submits that the substance of the interview included a discussion of claim 34 in view of the references of record and, more particularly, the feature of "the plurality of computer boards accessible through at least one of the open first and second sides through the central aisle of the computing workspace during cooling of the computer components by air cooled through the one or more cooling coils," in view of U.S. Patent No. 6,819,563 to Chu ("*Chu*"). No agreement was reached.

### **Claim Objections**

Claims 34 and 43 are objected to for lack of antecedent basis. Claims 34 and 43 have been amended to correct the antecedent basis, and Applicant respectfully requests withdrawal of the pending objection.

### **Claim Rejections – 35 U.S.C. § 103**

The claims stand rejected under § 103 based on various combinations of eight different references:

- Claims 34-36, 38-39, 43-45, 49-50, and 52 stand rejected as allegedly unpatentable over *Chu* in view of U.S. Patent Application Publication 2003/0053293 to Beitelmal *et al.* ("*Beitelmal*"), and further in view of U.S. Patent Application Publication 2002/0190868 to Dearborn *et al.* ("*Dearborn*");
- Claims 37, 46, and 51 stand rejected as allegedly unpatentable over *Chu* in view of *Beitelmal* and further in view of *Dearborn* and further in view of U.S. Patent No. 5,740,018 to Rumbut ("*Rumbut*");

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<sup>1</sup> See, e.g., Application at Figs. 1, and 2A-B, and the accompanying disclosure.

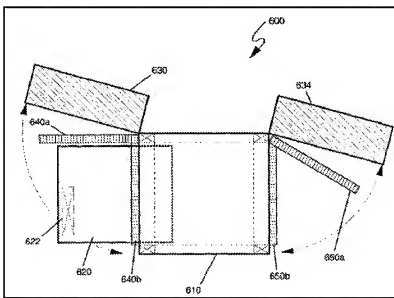
- Claims 41 and 47 stand rejected as allegedly unpatentable over *Chu* in view of *Beitelmal* and further in view of *Dearborn* and further in view of U.S. Patent No. 3,889,746 to Laffranchi ("*Laffranchi*");
- Claims 42, 48, and 55 stand rejected as allegedly unpatentable over *Chu* in view of *Beitelmal* and further in view of *Dearborn* and further in view of U.S. Patent No. 6,407,567 to Etter ("*Etter*");
- Claim 53 stands rejected as allegedly unpatentable over *Chu* in view of *Beitelmal* and further in view of *Dearborn* and further in view of U.S. Patent No. 6,530,347 to Takahashi ("*Takahashi*");
- Claim 54 stands rejected as allegedly unpatentable over *Chu* in view of *Beitelmal* and further in view of *Dearborn* and further in view of *Takahashi* and further in view of *Laffranchi*; and
- Claim 56 stands rejected as allegedly unpatentable over *Chu* in view of *Beitelmal* and further in view of *Dearborn* and further in view of U.S. Patent Application Publication No. 2003/0147214 to Patel ("*Patel*").

Applicant respectfully traverses the final rejection of the claims, at least because the *Chu-Beitelmal-Dearborn* combination fails to teach or suggest each and every feature of, or render obvious, amended claims 34, 43, and 49. Accordingly, Applicant respectfully requests reconsideration and allowance of claims 34, 43, and 49 and all claims depending therefrom over the pending § 103 rejection.

**The cited combination fails to teach or suggest "the plurality of computer boards in a particular slot accessible through at least one of the open first and second sides through the central aisle of the computing workspace during cooling of the computer components in the particular slot by air cooled through one or more cooling coils corresponding to the particular slot"**

As one example, the *Chu-Beitelmal-Dearborn* combination fails to teach or suggest the feature of "the plurality of computer boards in a particular slot accessible through at least one of the open first and second sides through the central aisle of the computing workspace during cooling of the computer components in the particular slot by air cooled through one or more cooling coils corresponding to the particular slot," recited in claim 34. In some implementations, this feature may provide for simultaneous servicing (through a human-occupiable aisle space) of one or more computing devices in a particular slot of the rack while other devices in that slot continue to operate normally and be cooled by associated cooling systems, thus reducing operative downtime of whole slots containing multiple devices, or indeed, whole racks.

The Office Action alleges that *Chu* teaches the claimed rack structure, but the described structures in *Chu* (much like the previous “Chu” reference (U.S. Patent Application Publication 2003/0053293) used in prior rejections) do not disclose the rack as claimed in this feature — or indeed, the operative advantages this feature may provide. *Chu* discusses that *only some* of the electronics enclosed within system 600<sup>2</sup> are accessible during cooling of devices by air cooled through heat exchangers 640 (640a-h) — and those devices that are accessible are *not* the same devices being cooled.



More specifically, the illustrated system 600 in Fig. 6B of *Chu* relied on in the Office Action shows that:

- (1) a drawer 620 that is extended from the frame 610 may allow access to electronics mounted on that drawer but does not provide for cooling of those electronics by a corresponding cooling coil 640 because that coil must be pivoted to allow the drawer extension; and
- (2) drawers receiving cooled air and thus, *not* extended from the frame 610, do not provide access to electronics mounted on those drawers, because the coils 640 and 650 prevent such access when pivoted to a position against the frame 610 (*i.e.*, in a position to provide cooled air).

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<sup>2</sup> Shown in Figs. 6A-B of *Chu* with Fig. 6B reproduced above.

Thus, *Chu* cannot teach or suggest this feature of amended claim 34. Nor would it have been obvious to modify *Chu* to account for such a feature. *Chu*'s "closed" system is aimed at the problem of increased noise due to larger airflow fans or fans operating at higher revolutions per minute. *See Chu* at 2:17-31. Modifying *Chu*'s system to include a feature of open access would frustrate at least one of the intended purposes of *Chu* and, therefore, would not be obvious to those skilled in the art. *See* M.P.E.P. § 2143.01(V) (modification cannot render the prior art unsatisfactory for its intended purpose).

**The cited combination fails to teach or suggest "the one or more cooling coils associated with each of the plurality of boards and located near one, but not both, of the first or second sides of the rack"**

As another example, amended claim 34 recites the feature of "the one or more cooling coils associated with each of the plurality of boards and located near one, but not both, of the first or second sides of the rack." As illustrated above, *Chu*'s system includes cooling coils 640 and 650 on opposed ends of the frame 610. *See also* Figs. 3, 4A, and 5 of *Chu*. This is consistent with the aims of *Chu*, which include "remov[ing] a portion of the heat dissipated by the electronics .... [with an] exhaust heat exchanger [to transfer] heat dissipated by the electronic devices to the cooling fluid." *Id.* at Abstract. Accordingly, *Chu* fails to teach or suggest this feature and it would not have been obvious to modify *Chu* to account for this feature.

Accordingly, Applicant respectfully submits that claim 34 is patentable over the *Chu-Beitelmal-Dearborn* combination<sup>3</sup> as are amended claims 43 and 49, which recite features similar to those described above with respect to amended claim 34. Accordingly, Applicant respectfully requests reconsideration and allowance of claims 34, 43, and 49 and all claims depending therefrom over the pending § 103 rejection.

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<sup>3</sup> Applicant respectfully submits that the Office Action fails to show that any of *Beitelmal*, *Dearborn*, *Rumbut*, *Laffranchi*, *Etter*, *Takahashi*, or *Patel* accounts for this deficiency in *Chu*.

### **CONCLUSION**

Applicant has made an earnest attempt to place this case in condition for allowance. However, the absence of a reply to a specific rejection, issue, or comment does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Applicant respectfully requests consideration of all filed IDSs not previously considered, by initialing and returning each Form PTO-1449.

The required fees for the Continued Examination (RCE) under 37 C.F.R. § 1.114 and one-month extension of time are being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization to Deposit Account No. 06-1050. Please apply all other charges or any credits to Deposit Account No. 06-1050, referencing the attorney docket number shown above.

Respectfully submitted,

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